

# PATENT SPECIFICATION

NO DRAWINGS

Inventors: DOUGLAS STEPHENSON and JOHN SPENCE

936,386



936,386

Date of filing Complete Specification Dec. 31, 1959.

Application Date Jan. 16, 1959.

No. 1700,59.

Complete Specification Published Sept. 11, 1963.

© Crown Copyright 1963.

Index at acceptance: —Class 81(1), B(3:4:6).

International Classification: —A61k.

## COMPLETE SPECIFICATION

### Pellets for Supplying Biologically Active Substances to Ruminants

We, THE WELLCOME FOUNDATION LIMITED, a British Company of 183—193 Euston Road, London, N.W.1. do hereby declare

5 the invention for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

10 The present invention relates to pellets for supplying biologically active substances to ruminants, and to the manufacture thereof.

In British Patent specification No. 866,924, in the name of Commonwealth Scientific and Industrial Research Organisation, Australia, there are described and claimed pellets for administration to ruminants to supply them with biologically active substances for an extended period of time, said pellets having a density and weight which relatively permanently retains them in the rumeno-recticular sac of the animals after administration and lodgement in the sac and embodying a biologically active substance which is released from the pellets into the contents of the sac over the extended period of time.

15 The biological active substance is exemplified by trace elements, antibloat agents, antibiotics, anthelmintics, systemic insecticides and hormones.

20 The pellets are manufactured by embodying the active substance in a carrier binder or base, and also embodying if required a relatively dense material which makes the density and weight of the pellets above the minimum values below which an undesirably large proportion of the pellets tend to be ejected from the animals. The present invention provides an improvement in the composition and method of manufacture of these pellets.

25 30 35 40 The present invention, in one aspect, provides a pellet for administration to a ruminant to supply it with a biologically active substance for an extended period of time, said

pellet having a density and weight which relatively permanently retains it in the rumeno-recticular sac after administration and lodgement in the sac and embodying a core of density at least 3.5 around which there is an outer layer containing a biologically active substance which is released from the pellet into the contents of the sac over the extended period of time.

35 Preferably the material conferring the high density to the core is iron. The outer layer contains essentially one or more active substances, for example hormones, antibloat agents, antibiotics, anthelmintics, trace elements (such as cobalt, copper, manganese, molybdenum, iron, iodine, boron and vanadium) antihistamines and systemic insecticides which are capable of preventing attack by various external parasites. Both layers may contain other materials in various proportions depending on, for example, the amount and type of active substance required, the duration of biological action required, and the method of manufacture used. The core is not essentially situated centrally in the pellet.

40 The pellet may be manufactured by any one of several methods known to the art of pharmacy, whereby the core has applied around it the outer layer. The manufacture of the pellet by any of these methods is another aspect provided by the present invention.

45 50 55 60 65 70 75 80 85 The core may be formed by casting or by compression of granules of the core materials. Thus, the core may consist of iron in a fine powder which is granulated using a binding material, for example starch mucilage, gelatin solution or a solution of a "plastic" such as an acrylic resin in chloroform or cellulose acetate in acetone. The granules normally require a lubricating material, for example magnesium stearate, talc or graphite. A metallic oxide, for example cupric oxide, may be included in the granules when the oxide is to

(P.

BEST AVAILABLE COPY